REMARKS

Claims 1, 4 to 6, 7, 8 and 10 to 15 are all the claims pending in the application.

The Examiner states that it is not clear as to what is included in the grain boundary region of claim 1. The Examiner states that the claim has been amended in such a manner that it is not clear as to the number of oxides required in the oxide region. The Examiner requests clarification.

In response, applicants submit that one of ordinary skill in the art would understand that claim 1 clearly requires at least two oxides, one of which is selected from group A and one of which is selected from group B.

Nevertheless, in order to advance prosecution, applicants have amended claim 1 as set forth above, from which it is clear that claim 1 requires at least two oxides, one of which is selected from group A and one of which is selected from group B.

In view of the above, applicants request withdrawal of this rejection.

Claims 1, 4, 5, 7 and 11 have been rejected under 35 U.S.C. § 103(a) as obvious over U.S. 6,689,456 to Nakazawa et al in view of the newly cited U.S. 2005/0058855 to Girt.

Applicants submit that Nakazawa et al and Girt do not disclose or render obvious the subject matter of the present claims and, accordingly, request withdrawal of this rejection.

The Examiner states that Nakazawa et al do not disclose the oxides listed in group A and B in applicants' claim 1. The Examiner relies on Girt for disclosing oxides that satisfy the group A and B recitations of claim 1.

The Examiner asserts that Girt discloses the following combinations of oxides in a magnetic layer: (a) Cr and Ti, (b) Cr and Nb, or (c) Cr and Si.

The Examiner particularly refers to paragraph [0023] of Girt et al.

With respect to the Examiner's reliance on the combination of Cr and Ti, or the combination of Cr and Si, in Girt, applicants submit that these two combinations do not satisfy the recitations of claim 1. Thus, all of the oxides of Cr, Ti and Si are in group B of claim 1, and are not in group A. Accordingly, these two combinations of Girt do not lead one of ordinary skill in the art to the combination of the group A and group B oxides set forth in the present claims.

With respect to the Examiner's reliance on the combination of the oxides of Cr and Nb in Girt, an Nb oxide is not an oxide of group A or group B of claim 1. Accordingly, this combination of Girt does not lead one of ordinary skill in the art to the combination of the group A and group B oxides of claim 1.

Thus, the disclosures in Girt upon which the Examiner relies do not disclose or suggest the perpendicular magnetic recording medium of claim 1.

Further, claim 1 recites that the content of the oxide from group A in mole percentage is smaller than the content of the oxide from group B in mole percentage. Table 2 of the present specification shows that better properties are obtained when the amount of oxides of group B is larger than that of group A.

Girt does not specifically disclose that the amount of oxides selected from group A in mol% is smaller than the amount of oxides selected from group B in mol% in the oxides which

form the grain boundary region. Further, Girt does not disclose that better properties are exhibited when the amount of oxides of group B is larger than that of group A as shown in Table 2 of the present specification.

Girt does generally disclose in paragraph [0023] the combination of 2 to 9 molar % WO_3 and up to 10 molar % Cr oxide and Co oxide, and the combination of 2 to 15 molar % ZrO_2 and up to 10 molar % Cr oxide and Co oxide.

Girt, however, does not disclose any example of such combinations, and does not disclose any specific example where the amount of oxides of group B is larger than that of group A, and does not disclose that better properties are exhibited when the amount of oxides of group B is larger than that of group A as shown in Table 2 of the present application. Accordingly, Girt does not suggest the combination of oxides in the amounts set forth in the present claims.

In particular, with respect to the disclosure of the combination of "2 to 15 molar % of ZrO_2 and up to 10 molar % Cr and Co oxide," the Zr oxide is in group A of claim l, and the Cr oxide is an oxide in group B of claim 1. Therefore, this disclosure in Girt does not suggest the perpendicular magnetic recording medium of the present invention in which the content of the oxide selected from group A in mole percentage is smaller than the content of the oxide selected from group B in mole percentage in the oxides which form the crystal grain boundary region. Girt does not disclose any example of the combination, does not disclose any specific example where the amount of oxides of group B is larger than that of group A, and does not disclose that better properties are exhibited when the amount of oxides of group B is larger that that of group A as shown in Table 2 of the present application.

With respect to disclosure of the combination of "2 to 9 molar % of WO_3 and up to 10 mol% Cr and Co oxide," Girt does not disclose any example of such a combination, does not disclose any specific example where the amount of oxides of group B is larger than that of group A, and does not disclose that better properties are exhibited when the amount of oxides of group B is larger that that of group A as shown in Table 2 of the present application.

In addition, Girt discloses in paragraph [0047], as an example, that the method of forming oxides at the boundaries can be a method in which "oxides may be formed by introducing a minor amount of at least one reactive gas, i.e., oxygen (O_2) to the inert gas (e.g., Ar) atmosphere during sputter deposition of the Co alloy-based perpendicular magnetic layer." Applicants point out that because the Co may be oxidized to Co oxide while the Cr is oxidized to Cr oxide, it is difficult to control the ratio of Co oxide and Cr oxide formed by the reactive sputtering method in the presence of oxygen. Therefore, the disclosure of "10 molar % Cr and Co oxide" in Girt is not a disclosure of the amount of Cr oxide.

Although Girt has generally disclosed that the methods are not limited to reactive sputtering in an atmosphere containing oxygen gas, and although Girt discloses another example at the end of paragraph [0047], that "includes reactive sputter deposition of the magnetic layer wherein the oxide material is incorporated in the sputtering target," Girt does not suggest that the content of Cr oxide should be controlled independently.

Therefore, the disclosure of "the combination of "2 to 9 molar % WO_3 and up to 10 molar % Cr and Co oxide" in Girt does not lead one of ordinary skill in the art to the perpendicular magnetic recording medium in which the content of the oxide selected from the

group A in mole percentage is smaller than the content of the oxide selected from the group B in mole percentage in the oxides which form said crystal grain boundary region.

Accordingly, Girt does not suggest the combination of oxides in the amounts set forth in the present claims.

Therefore, the combination of Nakazawa et al with Girt does not lead one of ordinary skill in the art to the present invention.

In view of the above, applicants submit that Nakazawa et al and Girt do not disclose or render obvious the subject matter of the present claims and, accordingly, request withdrawal of this rejection.

Claims 8, 10, 14 and 15 have been rejected under 35 U.S.C. § 103(a) as obvious over Nakazawa et al in view of Girt and further in view of U.S. Patent Publication 2005/0227122 to Takahashi et al.

Claims 8, 10, 14 and 15 depend from claim 1. Accordingly, the arguments that applicants set forth above with respect to claim 1 support the patentability of these dependent claims.

In view of the above, applicants request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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